New Therapy May Knock Out Peanut Allergy

Experimental Treatment Gives Patients Tiny Amounts of Peanut Protein

By Charlene Laino, *WebMD Health News*, Reviewed by Louise Chang, MD

March 16, 2009 (Washington, D.C.) -- Some kids with peanut allergies are now packing peanut butter and jelly sandwiches for lunch, thanks to an experimental treatment in which people with food allergies are fed miniscule amounts of the very food to which they're allergic.

Five of nine children with peanut allergies who swallowed small doses of peanut protein under a doctor's supervision daily for over two and one-half years can now eat unlimited amounts of peanuts without any signs of allergic reaction.

Not only do they not develop hives, wheeze, or exhibit other symptoms, but immune system changes suggest they've completely outgrown their allergies, says Wesley Burks, MD, chief of the division of pediatric allergy and immunology at Duke University Medical Center.

Burks presented the findings here at the annual meeting of the American Academy of Asthma and Immunology.

About 12 million Americans have food allergies, and allergies to peanuts are among the most dangerous. Life-threatening reactions can occur after simply reusing a knife that wasn't properly scrubbed after being used to spread peanut butter; nearly half of the 150 deaths attributed to food allergies each year are caused by peanut allergies, Burks says.

Making matters worse, the number of people with peanut allergies doubled over a recent five-year period, from four in 1,000 people in 1997 to eight in 1,000 in 2002, according to Robert Wood, MD, director of the division of pediatric allergy and immunology at Johns Hopkins University School of Medicine in Baltimore.

The bad news doesn't end there: Those ubiquitous allergy shots that are used to combat allergies to insect stings and pollen are too risky for food allergies. The only proven way to avoid allergic reactions is to avoid the offending food, he tells WebMD.

Oral Immunotherapy

Burks' team tried another tactic: oral immunotherapy. They gave 33 children with known peanut allergy tiny but escalating doses of peanut protein in the form of a powder sprinkled into applesauce or other food.

After eight to 10 months of the daily treatment, the children were challenged with a doctor-supervised test in which they were given increasing doses of peanut protein.

Most showed signs of desensitization, meaning that they could eat much higher doses of the peanut protein before having an allergic reaction.

"At the start of the study, these participants couldn't tolerate one-sixth of a peanut," Burks says. "Six months into it, they were ingesting 13 to 15 peanuts before they had a reaction."

Their parents benefited, too. "Their anxiety levels about going out to eat, even just sending their kids to school, really went down," he says.

Four youngsters couldn't tolerate the treatment and dropped out of the study.

Of the other 29, nine kids have now been in the study for more than two and a half years. Five of the 29 have been able to stop treatment because they can tolerate peanuts in their regular diet. The other four children remain on daily maintenance treatment.

The researchers also looked at blood markers of immune system response, including immunoglobulin E (IgE), a protein the body makes in response to allergens. "It tells you the likelihood that you're allergic," Burks says. IgE levels dropped in all the kids, but they went down faster in the children who are now able to eat peanuts with impunity, he says.)

Second Peanut Allergy Study

In a second study of 18 children with peanut allergies, the researchers gave the peanut protein treatment to 12 children and placebo powder to the other six.

After 10 months, the children were given the peanut challenge. The kids taking placebo had allergic reactions after consuming the equivalent of one and a half peanuts. Those in the treatment group could tolerate 15 peanuts before they developed symptoms.

"This is the first study to show in a controlled way that oral immunotherapy works," Burks says. The study continues, with the researchers planning to enroll about 80 more patients.

Still, both studies are small and the children haven't been followed for that long. "We have to wait and see if the children continue to tolerate peanuts over the long term," he says.

Don't try this at home, he cautions. Unless they're in the study, Burks gives the same advice to patients with food allergies that he always has given: avoid the offending food.

Burks predicts oral immunotherapy will become a standard treatment within the next few years. Studies in people with milk and egg allergies also show promise, he notes.

Wood isn't quite as optimistic. "The studies are encouraging, and some patients have been desensitized to peanuts. But whether that translates into long-term tolerance remains to be seen. FDA approval [of oral immunotherapy] is at least a decade away."

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